

ABSTRACT

For medicine, sports and cosmonautics, a method of biomechanotherapy massage and therapeutic action on a human body performed both by heat and light waves and by mechanical waves which are sequential and parallel combinations of longitudinal and transverse modulated solitary waves of length from 0.005 to 0.1 m propagating along the body with speed from 0.01 to 12 m/s, where the solitary waves are formed on the body due to an impulsive action of separate thermovibratodes interconnected with a controlled link and acting on a human body with a temperature from 0 to 90°C, a specific pressure from $0.5 \cdot 10^5$ to $4 \cdot 10^5$ Pa and a shear thrust from 0.1 to 100 N. The proposed method of biomechanotherapy allows to increase efficiency of the therapeutic and sports massage and to improve results of an integral treatment of various diseases. Wave biomechanotherapy increases 1.5-2 times the peripheral blood flow facilitating the work of the cardiovascular system, improving the rheological properties of blood, blood supply to all organs and the functional condition of these parameters. Wave biomechanotherapy actively stimulates the metabolism, accelerates rehabilitation processes in organs and tissues and increases drainage of decay products from a body in a natural way.